**Section 355.203 Calculation of Total Ammonia Nitrogen** **Numeric Water Quality Standards Regarding NPDES Permit Limits**

Temperature and pH affect the numeric total ammonia nitrogen water quality standard. Both stream temperature and pH can be expected to be different than discharge temperature and pH; therefore, the calculation of the water quality standard and permit limits will be based on conditions expected to exist downstream of the discharge.

a) Where receiving stream specific data is available, that data shall be the basis for the selection of temperature and pH values to be used in calculating total ammonia nitrogen standards upon which an NPDES permit limit will be based. A data collection station downstream of the discharge at or beyond the point where complete mixing has occurred is preferred. When receiving stream specific data is not available, data from the closest representative Agency water quality monitoring station during the most recent five years will be used in this conversion formula. The temperature will be set at the 75th percentile (75 percent of the values are less than) from data collected during the period for which the water quality standard is being calculated. The pH value will be set at the 75th percentile (75 percent of the values are less than) from data collected during the period for which the water quality standard is being calculated. If the 75th percentile pH value results in a permit limit for chronic exposure conditions (monthly average ammonia permit limit) less than 1.5 mg/L for the summer period or 4.0 mg/L for the winter period, the values will be recalculated based on a 50th percentile pH value (half the values are less than). The permit limit will then be set at the value derived with a 50th percentile pH as long as that value does not exceed 1.5 mg/L for the summer period and 4.0 mg/L for the winter period. If a 50th percentile pH value would allow a higher summer limit than 1.5 mg/L, the limit will be set at 1.5 mg/L. If a 50th percentile pH would allow a higher winter limit than 4.0 mg/L, the winter limit would be set at 4.0 mg/L. Limits based in the subchronic ammonia standard will be 2.5 times the chronic limit established by the above procedure.

1) Unless a different configuration is found by the Agency to be appropriate two permit limits for summer will be calculated separately using pH and temperature data from the following periods:

A) March, April, May, September and October.

B) June, July and August.

2) Unless a different configuration is found by the Agency to be appropriate, permit limits for winter will be calculated using pH and temperature data from November, December, January and February.

b) When sufficient stream specific information is available with simultaneous measurements of total ammonia, pH, and temperature, a relationship reflecting the dynamic interaction between pH, temperature and ammonia equilibrium may be developed instead of the approach presented in subsection (a).

c) The above calculations allow acute, chronic and subchronic ammonia nitrogen water quality standards to be applied as daily maximum, monthly average and weekly average permit limits, respectively.

(Source: Amended at 27 Ill. Reg. 15774, effective September 25, 2003)